

CLAIMS

1. A cytotoxic composition comprising an ectophosphatase inhibitor and a cytotoxic agent set forth in Table 1.
5
2. The cytotoxic composition of claim 1, wherein the cytotoxic agent is selectively cytotoxic.
3. The cytotoxic composition of claim 1, further defined as a herbicidal composition and
10 wherein the cytotoxic agent is a herbicide.
4. The cytotoxic composition of claim 1, further defined as an insecticidal composition and wherein the cytotoxic agent is an insecticide.
- 15 5. The cytotoxic composition of claim 1, further defined as a fungicidal composition and wherein the cytotoxic agent is a fungicide.
6. The cytotoxic composition of claim 1, further defined as an antibiotic composition and wherein the cytotoxic agent is an antibiotic.
20
7. The antibiotic composition of claim 6, wherein the antibiotic is from a class selected from the group consisting of Beta-lactam, Semisynthetic penicillin, Clavulanic Acid, Monobactams, Carboxyphenems, Aminoglycosides, Glycopeptides, Lincomycins, Macrolides, Polyenes, Rifamycins, Tetracyclines, Semisynthetic, tetracycline and
25 Chloramphenicol.
8. The cytotoxic composition of claim 1, wherein the ectophosphatase inhibitor is selected from the group consisting of the compounds of formulae I-XX.
- 30 9. A plant growth regulator composition comprising an ectophosphatase inhibitor and a plant growth regulator agent set forth in Table 1.

10. The plant growth regulator composition of claim 9, wherein the ectophosphatase inhibitor is selected from the group consisting of the compounds of formulae I-XX.
11. A chemotherapeutic composition comprising an ectophosphatase inhibitory compound and a chemotherapeutic agent.
- 5 12. The chemotherapeutic composition of claim 11, wherein the chemotherapeutic agent is a chemotherapeutic agent set forth in Table 3.
- 10 13. The chemotherapeutic composition of claim 11, wherein the ectophosphatase inhibitor is selected from the group consisting of the compounds of formulae I-XX.
14. A method of killing or inhibiting the growth of a plant, comprising contacting said plant with an effective amount of the composition of claim 3.
- 15 15. The method of claim 14, wherein said plant is a monocotyledonous plant.
16. The method of claim 14, wherein the plant is a dicotyledonous plant.
- 20 17. A method of killing or inhibiting the growth of a tumor cell, comprising contacting said tumor cell with an effective amount of the composition of claim 11.
18. The method of claim 17, wherein contacting comprises administering said composition of claim 11 to a patient in need thereof, wherein the patient comprises the tumor cell.
- 25 19. A method of killing or inhibiting the growth of an insect, comprising contacting said insect with the composition of claim 4.
20. A method of killing or inhibiting the growth of a fungal cell, comprising contacting said cell with the composition of claim 5.
- 30 21. A method of killing or inhibiting the growth of a bacterial cell, comprising contacting said cell with the composition of claim 6.

22. A method of increasing the effectiveness of a cytotoxic agent, comprising admixing said cytotoxic agent with an ectophosphatase inhibitor, wherein the cytotoxic agent is selected from the group set forth in Table 1.

5

23. The method of claim 22, wherein the cytotoxic agent is further defined as a herbicide.

24. The method of claim 22, wherein the cytotoxic agent is further defined as an insecticide.

10 25. The method of claim 22, wherein the cytotoxic agent is further defined as a fungicide.

26. The method of claim 22, wherein the cytotoxic agent is further defined as an antibiotic.

15 27. The method of claim 26, wherein the antibiotic is from a class selected from the group consisting of Beta-lactam, Semisynthetic penicillin, Clavulanic Acid, Monobactams, Carboxyphenems, Aminoglycosides, Glycopeptides, Lincomycins, Macrolides, Polyenes, Rifamycins, Tetracyclines, Semisynthetic, tetracycline and Chloramphenicol.

20 28. The method of claim 22, wherein the ectophosphatase inhibitor is selected from the group consisting of the compounds of formulae I-XX.

25 29. A method of increasing the effectiveness of a chemotherapeutic agent, comprising admixing said chemotherapeutic agent with an ectophosphatase inhibitor, wherein the chemotherapeutic agent is selected from the group set forth in Table 3.

30. The method of claim 29, wherein the ectophosphatase inhibitor is selected from the group consisting of the compounds of formulae I-XX.